



APS

Advanced Planning and Scheduling

“Providing an integrated, responsive, and near real time approach to planning and assessment of feasible execution plans”

FACT SHEET

Why transform?

The United States Air Force (USAF) logistics environment is one of the largest and most complex supply chain (logistics chain) management environments in the world. Advanced Planning and Scheduling (APS) technology, as demonstrated by the APS Pathfinder, provided an integrated, near real-time, responsive approach to planning and assessment of feasible execution plans through an enterprise-wide view of all USAF logistical organizations with which it was connected; Dyess AFB, Tinker AFB, McConnell AFB, and Ellsworth AFB. The APS Pathfinder initiative, established with the Oklahoma City Air Logistics Center Propulsion Directorate (OC-ALC/LPA) on the F101 engine, was designed to evaluate APS capabilities and limitations in this environment, leverage other Services APS initiatives (Defense Logistics Agency (DLA), Army, and Navy) and support an implementation decision.

What is APS?

APS is a commercial-off-the-shelf technology used for Supply Chain planning and decision support functions. Implementation in commercial environments has generally resulted in significant improvement to order fulfillment, cycle time, and cost efficiency. Several USAF point-solutions perform some of the APS functions; however, functions such as Forecasting, Inventory Distribution, Maintenance and Production Planning, are fragmented across a number of organizations, processes, and systems. The Pathfinder effort demonstrated the capability to provide an automated, alerts-based capability to identify, examine, and resolve potential Supply Chain issues by exception (demand variability, parts availability, physical capacity, and financial restrictions) before they impacted daily execution. The APS Pathfinder also established a mechanism for sharing information and supporting such collaborative planning capabilities across the extended Supply Chain (e.g., DLA, OEMs).

What are other successful Supply Chain operations doing?

Successful operations are leveraging APS solutions to manage production planning and inventory by defining a Supply Chain operational plan that balances inventory and fill rates through ‘what if’ and ‘what is’ analysis. APS solutions enable a ‘management by exception’ solution generating a prioritized plan analyzing constraints based on factors such as parts, labor, carcasses, and budget. Successful Supply Chain operations are utilizing solutions that capture the data at the Point of Sale (POS), integrate knowledge of market space, and exploit the visibility, timeliness and responsiveness of the solution by communicating and validating the future requirements with the customer and supplier through collaboration.

What will our future Supply Chain planning operations look like?

- Redesigned iterative planning process
- An integrated, near real-time, responsive planning system with near real-time visibility of changes in the spares pipeline
- Utilizing up-to-date POS information
- Forecasting with human checks and balances and an item level, on-line forecast accuracy feedback loop
- Requirements identified by customer
- A clean time-phased Bill of Materials (BOM)
- Assessment of capacity, funds, labor, and material supportability
- Collaboration with customers and vendors

By improving its service operations, the USAF expects to greatly enhance the effectiveness and efficiency of operations, as well as the availability of key assets.

What is different in the future state?

- A fully integrated **end-to-end** service supply chain from original component suppliers through maintenance and repair facilities
- An **integrated, exception based** planning tool that focuses on developing an **enterprise wide** executable plan over the short, intermediate and long term
- Enhanced component replenishment, increased **inventory visibility**, and **improved scheduling** and sequencing of its maintenance and repair operations
- Restructured Air Force systems, roles and responsibilities link all forecasting, inventory distribution, maintenance, scheduling, and production planning
- A **collaborative**, interactive process that **empowers users**, incorporating knowledge and information from members of the enterprise
- An **automated**, more efficient process drives an entire Forecast cycle within the current month
- A planning system that will be simple to use, **responsive**, and will contain an **accurate BOM** that can be reviewed by any organization, but owned and maintained by a single organization

What are our goals?

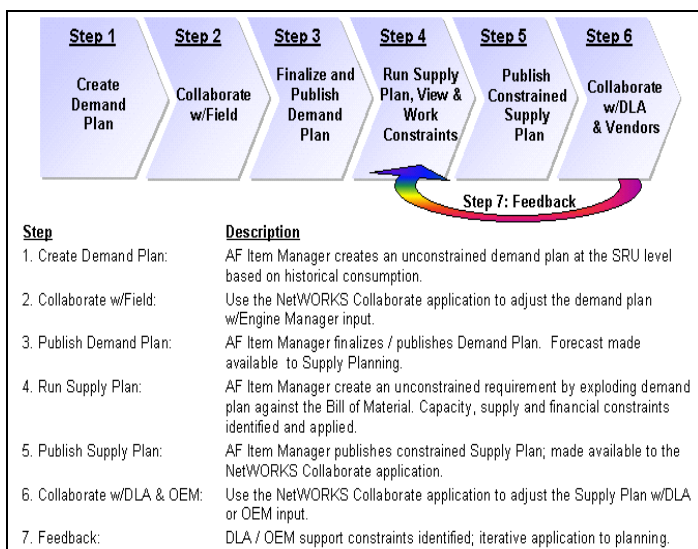
- Supporting 20% Improvement in Weapon System Availability within 3 Years
- Inventory Reduction
 - Cost of Inventory
 - Associated Shipping / Handling / Storage
- Cost of Capital
 - Cycle time reduction
 - Value of capital utilization
- IT System offsets
- Complete Global Rollout by 2008

What is our timeline?

The initial APS Pathfinder initiative was conducted at OC-ALC from March 2002 to March 2003 on a subset of F101 items. Subsequent efforts included the deployment across all F101 items. As of December 2003, the Team had expanded the basic functionality, (basic Forecasting, Material Planning, and Collaboration with Field customers), and enabled extended functionality (advanced Forecasting, Capacity Planning, and Collaboration with suppliers). February 2004 marked the completion of the entire F101 Full Operational Capability (FOC). With the conclusion of the F101 FOC, the team developed the necessary configuration and integration, built the Demand and Supply Planning process designs, tested exception management criteria and escalation paths, and developed a roadmap for rollout to new weapon systems. Upon completion of the F101 FOC, the decision was made to move into a sustainment mode and manage the F101 Demand and Supply Planning processes with the APS application for a 12-month period. Based on the success of the APS Pathfinder and F101 initiatives, the APS project has now been extended to the B-52 Airframe, B-52 Landing Gear, F-15 Avionics and Tactical Radar Threat Generator in parallel efforts at OC-ALC, OO-ALC, and WR-ALC. These efforts will explore other commodity areas beyond the engine community and will serve as the initial blueprint for the APS rollout under the Expeditionary Combat Support System (ECSS) that is being pursued under the eLog21 construct.

How can I learn more about APS?

For more information, we invite you to visit our website at: <https://www.lpa.tinker.af.mil/aps/>



Advanced Planning and Scheduling

“Providing an integrated, responsive, and near real time approach to planning and assessment of feasible execution plans”